

- Orbital systems
- Launchers
- Satellites
- Ground segments
- Balloons
- Transversal competencies



HYGEOS is a SME created in 2001, specialized in the processing, analysis and validation of Earth Observation satellites data in the optical domain. HYGEOS conducts studies, algorithmic developments and software prototyping, in partnership with research and service institutes. Its main clients are spatial agencies, European institutions, research organizations and industrial companies.

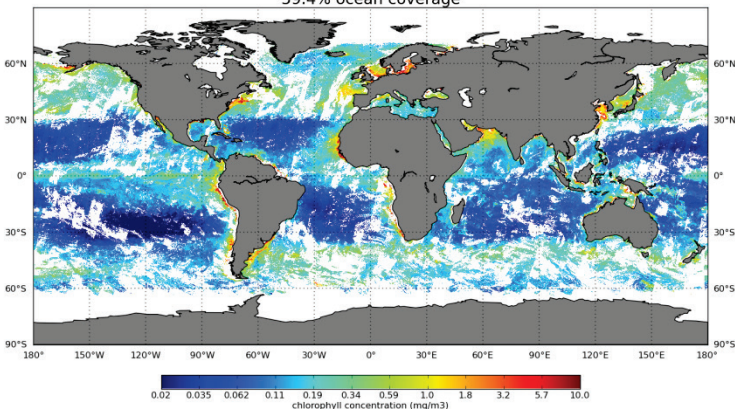
HYGEOS has 12 employees (including 7 PhDs in physics).

COMPETENCIES & CAPABILITIES

In-depth understanding of radiative transfer.

- Expertise and studies in remote sensing: Simulations of the satellite signal, the radiative transfer in the ocean, atmosphere and vegetation in the optical domain, feasibility studies of space missions, in flight calibration, definition of new methods to derive environmental physical variables.
- Scientific algorithms: Definition, modelling and validation of scientific processing chains of Earth Observation data, applications in oceanography, monitoring of continental surfaces, air quality, solar energy.
- Geomatics: Development of multi-source geophysical databases and web portal for data distribution.

MERIS POLYMER composite 3-days (20030321 to 20030323)
59.4% ocean coverage



COMPANY NAME

PRODUCTS & SERVICES

HYGEOS has developed two major tools:

- POLYMER recovers the radiance scattered and absorbed by the oceanic waters (also called Ocean Colour) from the signal measured by satellite sensors in the visible spectrum. It can process multiple sensors like MSI/Sentinel-2, OLCI/Sentinel-3, MERIS/ENVISAT, SeaWiFS, MODIS/Aqua, VIIRS, and GOCI. POLYMER license can be downloaded for free from our Website.
- SMART-G (Speed-Up Monte Carlo Advanced Radiative Transfer using GPU) is an advanced radiative transfer code. It has been co-developed by HYGEOS for CNES to simulate how the light propagates in the atmosphere and ocean.

MAJOR SPACE PROJECTS & REFERENCES

HYGEOS is strongly involved in Copernicus services: i) leading the global aerosol project of Copernicus Atmosphere Monitoring Service; ii) coordinating the scientific activities related to the "Vegetation and Energy" variables of the Global Land Service; iii) carrying out atmospheric correction of 3 Essential Climate Variables for the Climate Change Service. HYGEOS has recognized expertise in monitoring the biological activity of the oceans, through the quantitative estimation of the optical and physical properties of the sea surface layer provided by POLYMER (e.g. in ESA's CCI Ocean Colour). HYGEOS is constantly improving SMART-G, now considered like a reference. HYGEOS performs R&D on solar resource applications for photovoltaic and concentrating solar power plants.

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TURNOVER

WORK FORCE 12

SPACE TURNOVER

SPACE WORK FORCE 12